

## Claims

- [1] An inverted L antenna comprising:  
a printed circuit board provided with a metal layer; and  
an antenna element coupled to a portion of the metal layer in such a way that the portion dominantly generates an electric field parallel to an electric field generated by the antenna element.
- [2] The inverted L antenna of claim 1, wherein the metal layer is formed in a semi-circle at the portion.
- [3] The inverted L antenna of claim 1, wherein the metal layer is formed in triangle at the portion.
- [4] The inverted L antenna of claim 1, wherein the metal layer is formed in oval at the portion.
- [5] The inverted L antenna of claim 1, wherein the printed circuit board further includes:  
a dielectric layer formed on a bottom surface of the metal layer; and  
a ground layer formed on a bottom surface of the dielectric layer.
- [6] The inverted L antenna of claim 1, wherein the shape of the ground layer under the portion is equal to that of the metal layer.
- [7] The inverted L antenna of claim 1, wherein the portion is elongated from an edge of the printed circuit board.
- [8] The inverted L antenna of claim 1, wherein the electric field generated at the portion is caused by a signal inputted from an electric device mounted on the printed circuit board.
- [9] An inverted L antenna comprising:  
a printed circuit board provided with at least one metal layer; and  
an N number of antenna elements coupled to a corresponding number of portions of the metal layer in such a way that each of the portions dominantly generates an electric field parallel to an electric field generated by a corresponding antenna element, wherein N is a positive integer.
- [10] The inverted L antenna of claim 9, wherein each of the portions are formed on the metal layer in such a way that they cause a minimum interference therebetween.
- [11] A mobile terminal comprising:  
a printed circuit board provided with a metal layer; and

an antenna element coupled to a corner edge of the metal layer in such a way that the corner edge dominantly generates an electric field parallel to an electric field generated by the antenna element, wherein the direction of electric field generated at the antenna element is approximately perpendicular to a surface of an earth.

[12] The mobile terminal of the claim 11, wherein the antenna element is arranged in such a way that it inclined at a predetermined angle from a side edge line of the metal layer.

[13] The mobile terminal of claim 12, wherein the predetermined angel in approximately 45 degrees.